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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,036	07/23/2001	Joseph B. Kejha	JBK -10	3738
7590 03/11/2004				
JOSEPH B. KEJHA 1022 FREDERICK Rd. MEADOWBROOK, PA 19046				
EXAMINER CHANEY, CAROL DIANE				
ART UNIT		PAPER NUMBER		
1745				

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/911,036

Applicant(s)

KEJHA ET AL.

Examiner

Carol Chaney

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-4 and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kejha, US Patent 5,443,602 (the '602 patent). The '602 patent discloses a method for coating a current collector with cathode material. (Column 2, lines 5-7.) As shown in Fig. 4, a web (11), which may be a "desired current collector", travels into a dip tank (37) and vertically upward through a solidification chamber (43). (Note column 3, lines 50-55 and column 4, lines 46-56.)

The '602 patent teaches that the current collectors described in US Patent Application serial number 08/281,011 may be used in the '602 invention. (See US Patent 5,443,602, column 3, lines 48-56.) The metal grids, expanded metal foils, perforated metal foils, and solid metal foils recited in instant claims 1-4 are encompassed by the current collectors disclosed in US Patent Application serial number 08/281,011. As disclosed by applicants, these current collectors include two or three layers of different materials including a plastic film or net layer, and one or two metal layers on the surface of the plastic. Thus, the current collectors disclosed in US Patent Application serial number 08/281,011 include a metal layer, which would be in the form of metal grid, expanded metal foil, perforated metal foil, or solid metal foil.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 5-14 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Kejha '602 patent in view of Andersen et al., US Patent 6,280,879.

As discussed above, the '602 patent discloses applicants' instant invention essentially as claimed, with the exception that the '602 patent does not disclose application of a primer material to a current collector prior to dip-coating the current collector.

With regards to claims 5, 6, and 19-23, Andersen et al. teach that current collector foils can be protected from highly reactive and corrosive electrode and electrolyte materials by coating the current collectors with primer. (Column 5, lines 27-32.) Thus, it would have been obvious to one of ordinary skill in the art to use the primer disclosed by Andersen et al. in the process disclosed in the '602 patent in order to protect current collectors from reactive and corrosive materials.

With regards to claims 7 and 8, and 20-23 Andersen et al. teach an electrode paste having solvent in the range of 20-88 % by weight, binder in the range of 1-10% by weight, active material in the range of 25-50 % by weight, and carbon black in the range of 2-10% by weight. PVDF is a preferred binder, and ketones, which includes acetone, and N-methyl-pyrrolidone are preferred solvents. (Column 7, lines 17-65.) Adjustment of the boiling point/evaporation rate of the solvent and the viscosity of the solvent are

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taught as critical, and thus it would have been obvious to one of ordinary skill in the art to use a combination of solvents to adjust vapor pressure, etc.

### ***Response to Arguments***

Applicant's arguments filed 06 December 2003 have been fully considered but they are not persuasive.

Applicants note that the 5,443,602 patent teaches a vertical dip-coating method with a different drive system. Since drive systems are not found as limitations in the instant claims, this point does not effect patentability of the instant claims.

Applicants assert the instant invention claims only one metal layer current collector. However, applicants' claims are not limited to current collectors with only one metal layer. Applicants' recitations of processes in which a length of metal grid, expanded metal foil, perforated metal foil, or solid metal foil is dip coated do not exclude processes which dip coat additional layers attached to the metal. Although the current collectors disclosed in the 08/281,011 application may be structurally different from the current collectors applicants envision as part of the instant invention, the instant claims encompass the process disclosed in the 5,443,602 invention.

With regards to the 35 USC 103(a) rejections over Kejha in view of Andersen et al., applicants assert Andersen et al. describe primers for current collectors for different reasons than the applicants. The courts have held that it is immaterial that the applicants and the prior art may disclose different reasons for obtaining identical products. Where the substance is unpatentable under 35 USC 103, it is immaterial that

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applicant may have disclosed an obvious or unobvious further purpose or advantage for the substance. See *In re Graf*, 145 USPQ 197 (CCPA 1965); *In re Finsterwalder*, 168 USPQ 530 (CCPA 1971). It would have been obvious to one of ordinary skill in the art to use the Andersen et al. primer and cathode slurry compositions in the Kejha et al. invention in order to protect current collectors from reactive and corrosive materials, as taught by Andersen et al.

Applicants assert Andersen et al. do not suggest the use of at least two solvents with different boiling points. As noted by applicants', Andersen et al. provide a list of individual solvents. However, Andersen et al. provide numerous examples (Examples II – VII) which use plural solvents. Thus, it would have been obvious to one of ordinary skill in the art to use at least two solvents in a coating slurry because examples of coating slurries with at least two solvents are provided. One of ordinary skill in the art would be able to choose appropriate combinations of solvents, dispersing agents, and rheological control agents to obtain required viscosities for the dip coating process disclosed by Kejha.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol Chaney whose telephone number is (571) 272-1284. The examiner can normally be reached on Mon - Fri 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Carol Chaney  
Primary Examiner  
Art Unit 1745

CC